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IS 9000-23 (1984): Basic environmental testing procedures for electronic and electrical items, Part 23: Drip proof test [LITD 1: Environmental Testing Procedure]

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“Knowledge is such a treasure which cannot be stolen”



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IS : 9000 (Part 23) - 1984

Indian Standard

BASIC ENVIRONMENTAL TESTING PROCEDURES FOR ELECTRONIC AND ELECTRICAL ITEMS

PART 23 DRIP PROOF TEST

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Indian Standard

BASIC ENVIRONMENTAL TESTING PROCEDURES FOR ELECTRONIC AND ELECTRICAL ITEMS

PART 23 DRIP PROOF TEST

10. FOREWORD

0.1 This Indian Standard (Part 23) was adopted by the Indian Standards Institution on 16 April 1984, after the draft finalized by the Environmental Testing Procedures Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

0.2 The difference in environmental testing procedures for component type items and equipment type items are fast disappearing in the context of technological developments. It is, therefore, felt necessary to have uniform testing procedures wherever possible. This series of standards on environmental testing procedures (IS : 9000) has been prepared with this objective. This is also in line with the principle adopted by IEC/TC 50 'Environmental testing' in developing unified series of standards on environmental testing procedures by the International Electrotechnical Commission (IEC).

0.2.1 It is proposed to withdraw the existing Indian Standards, namely, IS : 589-1961* and IS : 2106† series dealing with environmental tests for electronic components and equipment respectively, as soon as the tests mentioned therein are covered in the new series (IS : 9000).

0.3 This standard is based on Draft Test No. 11 of JSS 55555-1977 Environmental test methods for electronic and electrical equipment. Directorate of Standardization, Ministry of Defence, India.

0.4 In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960‡.

*Basic climatic and mechanical durability tests for components for electronic and electrical equipment (revised).

†Environmental tests for electronic and electrical equipment.

‡Rules for rounding off numerical values (revised).

1. SCOPE

1.1 This standard (Part 23) specifies details of the procedure for application of drip proof test on electronic and electrical items as a part of the basic environmental testing procedures.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions and explanation of terms given in IS : 9000 (Part I)-1977* shall apply.

3. OBJECT

3.1 The object of this test is to determine the suitability of unsealed electronic and electrical items which may be subjected in service to water droplets falling on it.

4. TEST EQUIPMENT

4.1 One or more dispensers fitted with nozzles of the type shown in Fig. 1 shall be used for conducting this test.

4.2 The number of dispenser units employed shall be sufficient to cover the area of the item surface under test. In case of large areas, it may be acceptable for sections to be conditioned sequentially. In this case the areas shall overlap and each is to be conditioned for specified duration.

4.3 The water used for the test shall be clean tap water. The water from the nozzle shall fall vertically downwards on to the surface of the item from a height of one metre. The water level in dispenser shall be maintained constant by adjusting the water flow to the dispenser.

5. INITIAL MEASUREMENTS

5.1 The item shall be visually inspected and electrically and mechanically checked, as required by the relevant specification.

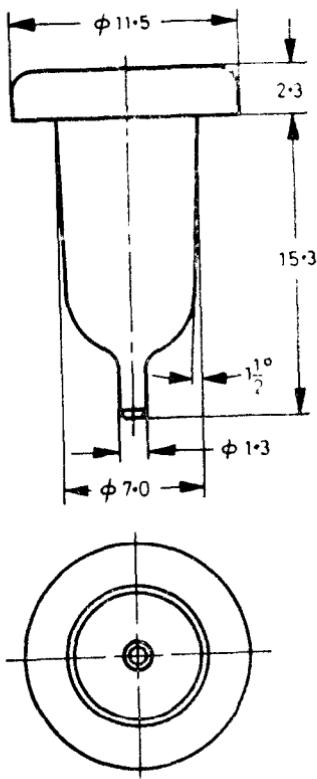
6. CONDITIONING

6.1 The item shall be subjected to this test in its unpacked condition.

6.2 The item under test, while being under the laboratory atmospheric conditions shall be positioned below the drip dispenser in its normal operational attitude.

6.3 Unless otherwise specified, any removable covers of the item shall be fixed in position as in normal operation. Sockets, terminal boxes, pipe and other entries shall be protected either by fitting the normal connectors, pipes, etc, or equivalent sealing blocks.

*Basic environmental testing procedures for electronic and electrical items: Part I General.



All dimensions in millimetres.

FIG. 1 NOZZLE FOR DRIP PROOF TEST

6.4 The item shall be subjected to this test for a period of 15 minutes.

6.5 The item shall be operated during this test.

6.6 At the conclusion of the test, the item shall be visually examined for ingress of water.

7. RECOVERY

7.1 Unless otherwise specified, all the external surfaces of the item shall be dried by wiping or by applying a clean blast of air at room temperature.

8. FINAL MEASUREMENTS

8.1 The item shall be visually inspected and electrically and mechanically checked, as required by the relevant specification.

9. INFORMATION TO BE GIVEN IN THE RELEVANT SPECIFICATION

9.1 When this test is included in the relevant specification, the following details shall be given as far as they are applicable :

	<i>Clause Ref</i>
a) Initial measurement	5
b) Details of operation	6.5
c) Final measurements	8
d) Any deviation from the normal test procedure	—